

THE BIRDS OF ADELE ISLAND, WESTERN AUSTRALIA  
INCLUDING NOTES ON RECENTLY ESTABLISHED  
BREEDING COLONIES OF RED-FOOTED BOOBIES (*SULA*  
*SULA*) AND GREAT FRIGATE BIRDS (*FREGATA* *MINOR*)

By K.H. COATE

21 Acanthus Road, Willeton, Western Australia, 6155

L.A. SMITH

Western Australian Museum, Francis Street, Perth 6000

and L. FONTANINI

RMB 312 Manjimup 6258

### INTRODUCTION

Adele Island is a low, vegetated sandy island 200 km NNW of Derby, Western Australia in latitude 15°33'S, longitude 123°11'E. It rises barely 4 m above high water mark, is 3 km long and up to 1.6 km wide. It was chartered and named by Commander Baudin in 1801 during the voyages of the "Geographe" and "Naturaliste". Stokes (1846) and King (1827) mention the island in their logs but Captain Walker, Commander of HMS "Penguin" was apparently the first European to land on the island (2 May 1891) and make observations (Walker 1892).

In all Walker reported 17 species of bird including "Lesser Sooty Terns (*Sterna anaesthetia*)", a "black Noddy, probably *Anous stolidus*", *Larus novaehollandiae* and two or three species of tern including Caspian Tern (*Sterna capsia*) and the "breeding and abundant Lesser-crested Tern (*Sterna media*).". He also recorded a Pelican (*Pelecanus conspicillatus*), Beach Stone Curlews, Sooty and Pied Oystercatchers, 3 Reef Herons, Breeding Brown and Masked Boobies, Breeding Pied Cormorants, a Bittern, a quail and one or two "warbler-like" birds.

Adele Island was not revisited by ornithologists again for nearly 80 years. On June 18 1972, A.A. Burbidge, J. Dell and L. A. Smith visited the island with other biologists as an adjunct to a survey of the Bonaparte Archipelago (Smith *et al.* 1978). Since then visits have become more frequent. The senior author, with other naturalists visited Adele Island in June 1989 and 1990 (seventh and second respectively) and again on 7 July 1990 with another group of naturalists including his co-authors here.

The following annotated list summarises all bird records from Adele Island from 1972 onwards. Breeding records are asterisked and number of birds observed (when known) are in brackets.

## ANNOTATED LIST

### Pelican (*Pelecanus conspicillatus*)

18/6/72, 7/6/89, 2/6/90\* (immature birds seen), 8/7/90\* (50 breeding pairs, 29 almost fledged young).

### Masked Booby (*Sula dactylatra*)

18/6/72\* (about 100 pairs), 7/6/89\*, 2/6/90\*, 8/7/90\* (300–400 pairs).

### Brown Booby (*Sula leucogaster*)

18/6/72\* (1000–1500 pairs), 7/6/89\* (1000–1500 pairs), 7/6/89\*, 2/6/90\*, 8/7/90\*. Seven regurgitated food items of an alarmed adult were collected and identified as follows: Moonfish (*Mene maculata*), Black-banded King-fish (*Seriolina nigrofasciata*), Banded Grunter (*Terapon theraps*) and a Sardine (*Sardinella* sp.).

### Red-footed Booby (*Sula sula*)\*

In the vicinity of northern Australia this pantropic species breeds on Cocos Keeling and Christmas Islands, Manock and Pulau Kakabia Islands in the Banda Sea, Raine Island on the Great Barrier Reef and certain atolls in the Coral Sea, (Nelson 1978) and possibly Ashmore Reef (Serventy *et al.* 1971). The closest record to Western Australia is a sighting of 10 white-phase birds off Bawcau Beach, north-east Timor in 1973 (McKean *et al.* 1975).

On his 1989 visit to Adele Island the senior author recorded 17 species of bird including the Brown and Masked Boobies but not the Red-footed Booby. On his next visit in 1990 he found, among other species, 10 light phase and 4 intermediate phase Red-footed Boobies nesting in *Abutilon indeceum* bushes 0.5–1.5 m above the ground in an area not visited the previous year. Nests were a loose assemblage of sticks 500–600 mm in diameter. Birds were incubating single eggs or sitting on newly hatched young. The exception was one bird brooding one advanced young.

Thirty five days later we three visited Adele Island with other naturalists but could find no more than the original 14 nests. Of the intermediate-plumaged birds one was on an egg, two were with very young chicks and one had a chick almost ready to fly. The 10 light phase adults were incubating eggs or feeding small to large chicks. An adult (light phase) was collected. Details of specimens: Western Australian Museum A 23083 male. Wing 360 mm, tail 206 mm, tarsus 35 mm, middle Toe (including claw) 72 mm, bill entire 88 mm, bill exposed 77 mm, bill width 20.9 mm, bill depth 27.7 mm, total length 645 mm, Wt 760 g. Ephemeral colours: Bill blue-grey, orbital skin powder blue, base of bill purplish-pink. Feet pinkish-red (claws grey), mouth blue-grey.

Nesting in trees and shrubs is an important factor effecting the distribution (and presumably) numbers of Red-footed Boobies (Nelson 1978). The few *Abutilon indeceum* shrubs on Adele Island are

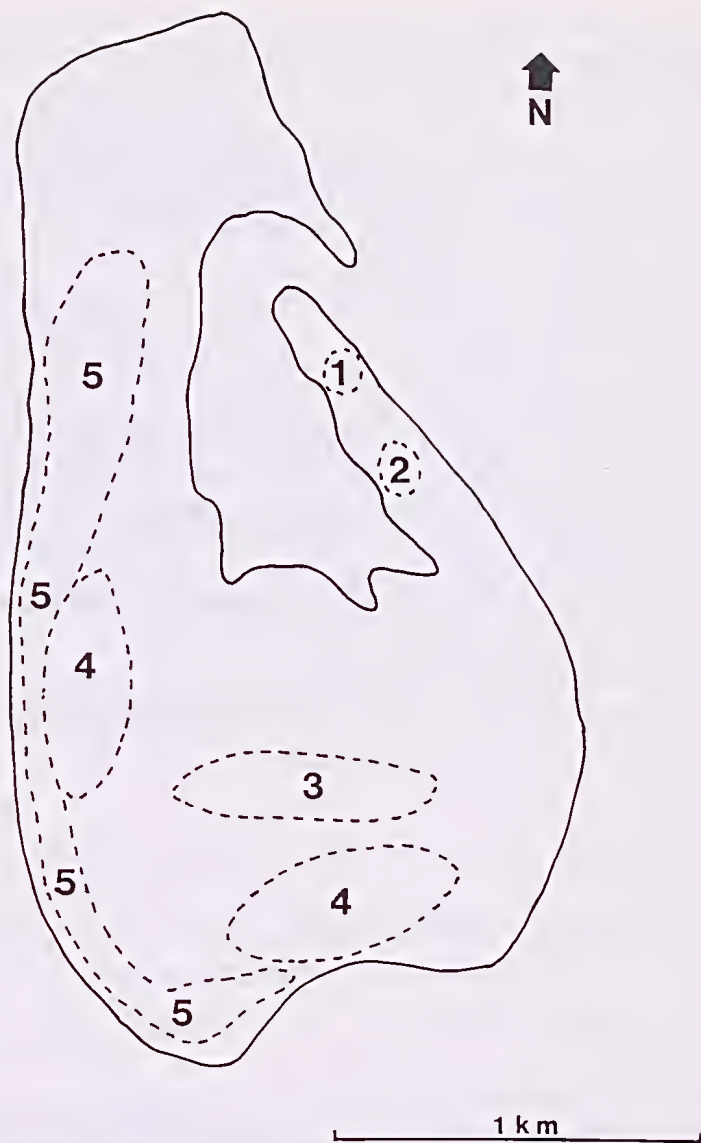


Figure 1. Adele Island showing breeding areas of various species. 1, Pelican; 2, Pied Cormorant; 3, Red-footed Booby and Greater Frigate Bird; 4, Lesser Frigate Bird (greatest concentration of nests); 5, Caspian Terns. Brown and masked boobies not concentrated in any particular area.

distributed in a narrow straggling band across its southern end so the potential for a large colony becoming established is limited.

Pied Cormorant (*Phalacrocorax varius*)

18/6/72 (12), 2/6/90, 8/7/90\* (about 300 advanced young).

Great Frigate Bird (*Fregata minor*)\*

The Great Frigate Bird has a pantropic distribution similar to that of the Red-footed Booby. In the vicinity of Australia it breeds on Cocos Keeling and Christmas Islands in the Indian Ocean, several groups of islands in the Coral Sea (Serventy, Serventy and Warham 1971), and several islands in the seas of Wallacea (White and Bruce 1986). It appears on the north coast of the Northern Territory, Australia in January and February (Storr 1977) while further west it is a rare visitor to the Timor Sea (Storr 1980)

On 18 June 1972 L.A. Smith and J. Dell saw 2 all black frigate birds soaring very high and separate from the many Lesser Frigate Birds and suspected they were Great Frigate Birds. The senior author here thought they were present on his 1989 visit and then on his June 1990 visit found 200–300 breeding pairs at the southern end of the island adjacent to the Red-footed Booby and interspersed with nesting Lesser Frigate Birds. Adults were on chicks ranging from the newly hatched to almost fledged. One adult male collected. Details of specimen: Western Australian Museum A23081. Wing 575 mm, tail (outer feathers) 387 mm, tarsus 20 mm, middle toe and claw 67 mm, bill entire 105 mm, bill exposed 90 mm, bill width 21 mm, bill depth 28.9 mm. Total length 900 mm, Wt 1000 g.

Lesser Frigate Bird (*Fregata ariel*)

18/6/72\* (1500–3000 breeding pairs), 7/6/89\*, 2/6/90\*, 8/7/90\*.

White-faced Heron (*Ardea novaehollandiae*)

8/7/90 (1).

Great Egret (*Egretta alba*)

8/7/90 (4).

Intermediate Egret (*Egretta intermedia*)

8/7/90.

Little Egret (*Egretta garzetta*)

2/6/90, 8/7/90.

Eastern Reef Heron (*Egretta garzetta*)

18/6/72 (100 dark phase birds and 1 white phase), 7/6/89 (200–300 at least 50% white phase), 2/6/90 (both phases present, grey phase breeding, 2 eggs on ground among *Spinifex*).

Rufous Night Heron (*Nycticorax caledonicus*)

7/6/89 (20–30), 2/6/90 (40). The "bittern" recorded by Walker (1892) was most probably a juvenile Night Heron.

Australian Kestrel (*Falco cenchroides*)

2/6/90 (1), 8/7/90 (2).

Brown Falcon (*Falco berigora*)

2/6/90 (1).

- Pied Oystercatcher (*Haematopus longirostris*)  
7/6/89, 8/7/90.
- Grey Plover (*Pluvialis squatorola*)  
2/6/90, 8/7/90.
- Eastern Golden Plover (*Pluvialis dominica*)  
7/6/89 (about 40 in breeding plumage).
- Red-capped Plover (*Charadrius ruficapillus*)  
7/6/90, 8/7/90.
- Whimbrel (*Numenius phaeopus*)  
2/6/90, 8/7/90.
- Bar-tailed Godwit (*Limosa lapponica*)  
2/6/90, 8/7/90.
- Grey-tailed Tattler (*Tringa brevipes*)  
2/6/90, 8/7/90.
- Greenshank (*Tringa nebularia*)  
7/6/90, 8/7/90.
- Ruddy Turnstone (*Arenaria interpres*)  
7/6/89 2/6/90, 8/7/90.
- Red Knot (*Calidris canutus*)  
8/7/90.
- Australian Pratincole (*Stiltia isabella*)  
2/6/90, 8/7/90.
- Silver Gull (*Larus novaehollandiae*)  
18/6/72, 7/6/89, 2/6/90, 8/7/90.
- Common Noddy (*Anous stolidus*)  
7/6/89, 8/7/90 (1).
- Caspian Tern (*Sterna caspia*)  
18/6/72 (5), 7/6/89 (large numbers), 2/6/90 (140 pairs on eggs), 8/7/90\* (chicks and eggs).
- Crested Tern (*Sterna bergii*)  
7/6/89, 2/6/90, 8/7/90.
- Lesser Crested Tern (*Sterna bengalensis*)  
7/6/89.
- Boobook Owl (*Ninox novaeseelandiae*)  
8/7/90. One collected (Western Australian Museum A23078). Pellets collected under the Boobook roost contained remains of *Rattus*

*exulans* (presumably the *Mus* sp. of Walker 1892). There are four specimens in the Western Australian Museum (M23473-76) collected by the Department of Conservation and Land Management in 1981.

Tawny Grass bird (*Megalurus timoriensis*)

18/6/72 (several). One collected. Western Australian Museum A11801. 7.6.89\* (nest with 2 eggs), 2/6/90, 8/7/90. This species would have been the Warbler like birds of Walker (1892).

Magpie Lark (*Grallina cyanoleuca*)

8/7/90.

## CONCLUSION

The 38 species of bird recorded from Adele Island comprises, not surprisingly, mostly seabirds, laro-limnocolae, littoral, estuarine and other aquatic species such as cormorants, egrets and pelicans (30 species). Three species of booby, 2 species of Frigate Bird, 2 species of tern, the Pied Cormorant, Pelican and Reef Heron have been recorded breeding on the island. Some, like the Brown and Masked Boobies breed regularly, presumably annually, while others like the Pied Cormorant and Pelican apparently breed irregularly. Of the remaining 8 species only one, the Tawny Grassbird is resident.

## ACKNOWLEDGEMENTS

We are grateful to K.F. Kenneally, Western Australian Herbarium for plant identifications, G. Allen, Western Australian Museum for the identification of fishes, Mrs N. Cooper, Western Australian Museum for identification of the rat remains and the crew of the 'Wave Spirit' who got us safely to and from the island.

## REFERENCES

- King, P.P. 1827 *Narrative of a survey of the intertropical and western coasts of Australia, performed between the years of 1818 and 1822*. 2 vols (John Murray: London).
- McKean, J.L., Mason, I.J. and O'Connor, L.W. 1975. Birds not previously recorded from Timor. *Emu* 75: 62-64.
- Nelson, J.B. 1978. *The Sulidae: Gannets and Boobies*. Oxford: OUP/Univ. Aberdeen. x + 1012 pp.
- Serventy, D.L., Serventy, V. and Warham, J. 1971. *The handbook of Australian Seabirds*. A.H. & A.W. Reed Ltd 254 pp.
- Smith, L.A., Johnstone, R.E. and Dell, J 1978. Birds in The Islands of the North-west Kimberley, Western Australia (Eds A.A. Burbidge &

N.L. McKenzie) pp. 42–45 *Wildl. Res. Bull. West. Aust.* No. 7. Dept Fish. & Wildl. Perth.

Stokes, J.L. 1846. *Discoveries in Australia etc.* 2 vols (T & W. Boone: London).

Storr, G.M. 1877. Birds of the Northern Territory. *Rec. West. Aust. Mus. spec. Publ.* No. 7.

Storr, G.M. 1977. Birds of the Kimberley Division. *Rec. West. Aust. Mus. spec. Publ.* No. 11.

Walker, J. 1892. The bird-life of Adele Island, North-west Australia. *Ibis* (6) 4: 254–261.